Syllabus

Environmental Risk Assessment and Human Health
CEVE/STAT 484/684
Dr. Loren Raun

Objective:	Learn and apply Environmental Protection Agency risk assessment (cancer and noncancer) methodology to estimate human health risk from environmental exposure on a site specific and global level. Understand the implications on a site specific and national level.
Emphasis:	**real world application**
Time:	Monday and Wednesday, 5:15-6:30 pm,
Location:	Syms lab II, outside Duncan Hall (DCH)
Prerequisite:	One semester of basic statistics
Grading:	20% homework, 40% assessments, 20% midterm project and 20% final project Due to the fast-paced nature of this class, students are **required to attend every class**. Attendance and tardiness (arriving more than 15 minutes late to class) will be recorded. Three tardies will be counted as an unexcused absence. Two or more unexcused absences will negatively impact your final grade.
Homework:	Due one week after assigned. Late homework will be accepted with a 10% penalty for each day past the due date.
Text:	Instructor notes, EPA guidance, journal articles
Instructor:	Loren Raun, raun@rice.edu, 713-417-1896
TA:	Akin Bruce, acb9@rice.edu
Office hours:	by appointment

Superfund Risk Assessment (site specific)

M 8/20	L1: Introduction to superfund risk assessment, RAGS Chapter 1-4.3, Hwk assessment 1 terms
W 8/22	L2: Data collection for risk assessment, background samples, sample size estimation, RAGS 4.4 to 4.9
M 8/29	L3: Stat Review, Hwk 1 present
W 8/31	L4: Exposure assessment (measure), RAGS Chapter 6, ProUCL,
M 9/3	**Labor Day, no class**
W 9/5	L5: Data evaluation for risk assessment, toxicity screen, RAGS 5.0, **Hwk assess 1 in class**
M 9/10	L6: Exposure assessment (model), leaching, Hwk assess 2 terms
W 9/12	L7: Exposure assessment (model), groundwater
M 9/17	L8: Exposure assessment (model), air/sw,
W 9/19	L9: Exposure assessment intake, RAGS Chapter 6
M 9/24	L10: Toxicity assessment for risk assessment, RAGS Chapter 7
W 9/26	L11: Risk characterization, RAGS Chapter 8 **Hwk assess 2 in class**
M 10/1	Risk Project exercise
W 10/3	Midterm risk project 1

M 10/8	**Midterm recess, no class**
W 10/10	Midterm risk project 1
M 10/15	Midterm risk project 1
W 10/17	Midterm risk project 1
M 10/22	Midterm risk project Presentation
W 10/23	Risk project 1 wrap up
M 10/29	**Hwk assess 3 in class**
W 10/31	ESLs, RBSLs, EPA Region 6 Screening levels
M 11/5	Mini risk assessment
W 11/7	Review ProUCL, and other statistical methods,
M 11/12	Risk project 2
W 11/14	Risk project 2
M 11/19	Homework Assessment 4, Risk project 2
W 11/21	Risk project 2
M 11/26	Risk project 2
W 11/28	Risk project 2